ABSTRACT

A hydrogen purge control apparatus includes a fuel cell stack from which hydrogen is purged as necessary, a purged hydrogen dilution device which is disposed downstream of the fuel cell stack, and which has a chamber formed therein, a first inlet for purged hydrogen, a second inlet for air, and an outlet for diluted hydrogen, a regulator which is disposed between the fuel cell stack and the first inlet, and which is provided for regulating an amount of the purged hydrogen flowing into the purged hydrogen dilution device, and a control unit having a hydrogen concentration estimating section that is configured to estimate the hydrogen concentration at the outlet of the purged hydrogen dilution device based on an operating state of the fuel cell stack. The regulator is operated by the control unit depending on the hydrogen concentration estimated by the hydrogen concentration estimating section.